User's Manual

IT-615

April. 2006 (V1.0)

www.birch.com.tw

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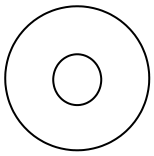
Chapter 1
Unpacking

Unpacking the Panel PC(IT-615), please check the following items are presented and in good conditions:

a. *Main Unit*

b. CD: User' s Manual & Driver Bank

The driver disk includes user' s manual and all of driver software of peripheral, such as touch screen, VGA, LAN…etc.



c. Wall Mount Bracket

d. Power Adapter

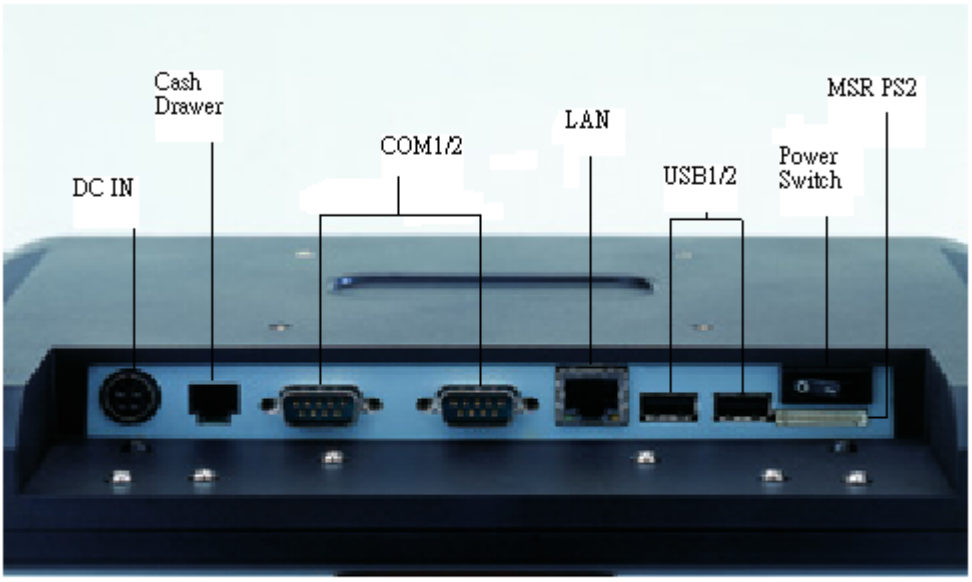
e. *Power Cord*: Optional USA, Europe, UK or Australia type.

Chapter 2
Specifications

Main Board			
CPU	AMD Geode LX-800		
System Memory	1 x DDR400 SO-DIMM Socket, up to 1GB		
Display			
TFT LCD Size	8.4”	12.1”	15”
Brightness	180nits	300nits	250nits
Resolution	800x600		1024x768
Touch Screen	5 Wire Resistive Type		
Storage Device			
HDD	No Support	2.5” Slim Type	
Compact Flash	1 x Type II, Slot		
I/O Ports			
Serial	2x RS232 (Pin9 with 5/12V Selected) 2x RS232 (Internal Touch & MSR Used)		
USB	2 x USB2.0 2 x USB2.0 Internal Stand By		
LAN	1 x RJ45, 10/100 Base-T		
Cash Drawer	1 x RJ11 (Power 12V)		
Audio	AC97 2.0 Compliant, Speaker 2 x 2W		
Others			
Power Supply	External, 12V / 80W, ATX		
Compliance	FCC / CE		
Weight (Kgs)	1.4	2.8	4.0
Dimension (mm)	230x118x43	313x256x46.5	369x298x47
Operating Temperature	5 ~ 40 C		
Optional Accessory			
Wireless LAN	802.11g, USB I/F		
Wall Mount Kits	VESA Standard		
Arm Mount Kits	VESA Standard		
MSR	ISO STD 3 Tracks, KB I/F		

2.2 I/O ports

Following ports show all of ports of system.



a. **DC IN**: connector for power adapter input 12VDC.

b. **Cash Drawer**: provide IO port address 280H for cash drawer control by RJ11.

c. **COM 1/2**: standard D sub serial port with 5V / 12VDC selected on pin9.

d. LAN: 10 / 100 base-T by RJ45 connector**.**

e. USB: play and plug USB 2.0.

f. Power Switch: toggle switch for power on.

g. **MSR PS2**: for attached MSR PS2 interface connection.

Chapter 3
Installation

3.1 OS Installation

3.1.1 Embedded WEPOS / WinCE

CD ROM Driver with USB interface

If you bought the system including WEPOS / WinCE operation system, please follow up below procedure.

a. Connect CDROM to the USB port of system.
b. Turn on the system and enter completely into WEPOS.
c. Up load your application software into WEPOS platform.
d. Complete installation and execute the AP.

Note: We suggest that you buy and use Birch recommend CD-ROM with USB interface while you are placed first sample unit.

3.1.2 Win XP

If you would like to install the Win XP, we suggest the system' s configuration include 256MB RAM and HDD.

a. Connect CDROM to the USB port of system.
b. Turn on the system and press " Del" key enter to CMOS setup.
c. Select icon " Advanced BIOS Features".

Phoenix – Award BIOS CMOS Setup Utility

„ Standard CMOS Features
„ Advanced BIOS Features
„ Advanced Chipset Features
„ Integrated Peripherals
„ Power Management Setup
„ PnP / PCI Configuration
„ PC Health Status

ESC: Quit
F10: Save & Exit Setup

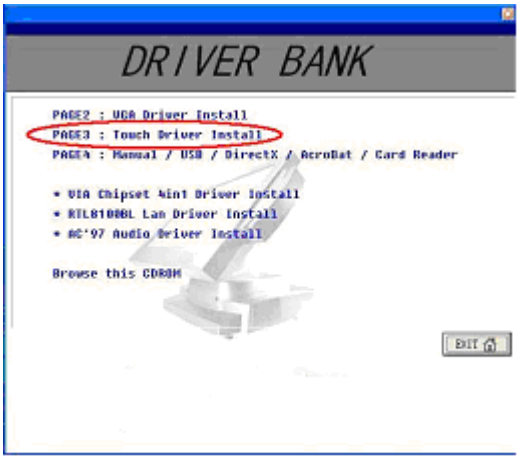
d. Select “First Boot Device” to “USB-CDROM”.
e. Press “F10” to save setup change and quit.
f. Install the Win XP, follow up the OS installation guide.

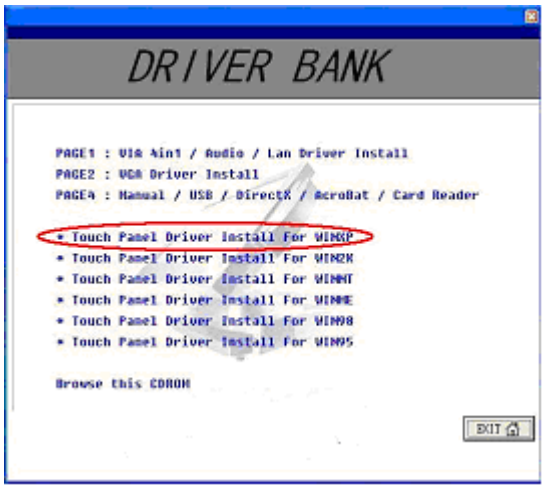
Phoenix – Award BIOS CMOS Setup Utility
Advanced BIOS Features

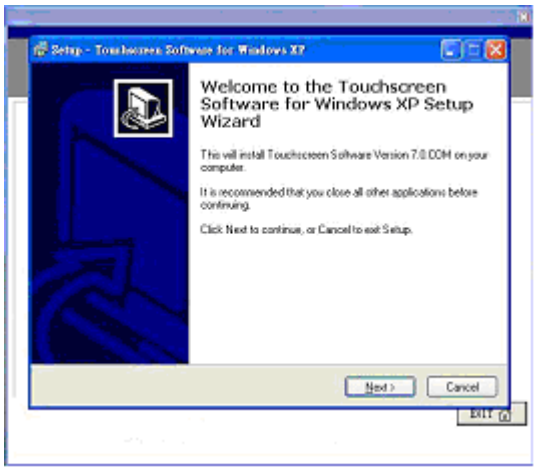
Virus Warning	[Disabled]	
CPU Internal Cache	[Enabled]	
Boot From Lan Control	[Disabled]	
First Boot Device	[USB-CDROM]	
Second Boot Device	[HDD-0]	
Third Boot Device	[CDROM]	
Boot Other Device	[Enabled]	
Boot UP NumLock Status	[On]	
Gate A20 Option	[Fast]	
Typematic Rate Setting	[Disabled]	
Typematic Rate (Chars/Sec)	6	
Typematic Delay (Msec)	250	
Security Option	[Setup]	
OS Select For DRAM > 64MB	[Non-OS2]	
Small Logo(EPA) Show	[Disabled]	

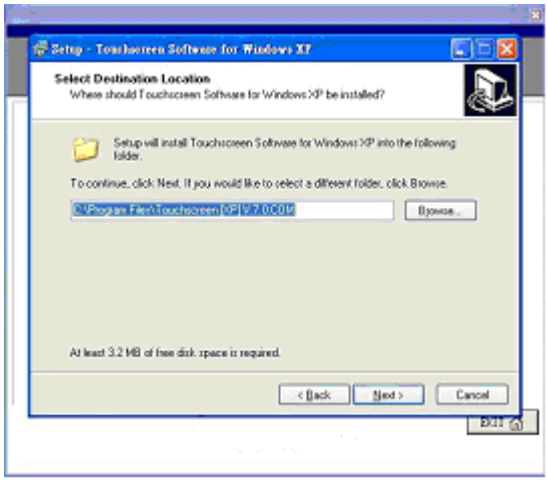
3.2 Touch Driver Installation

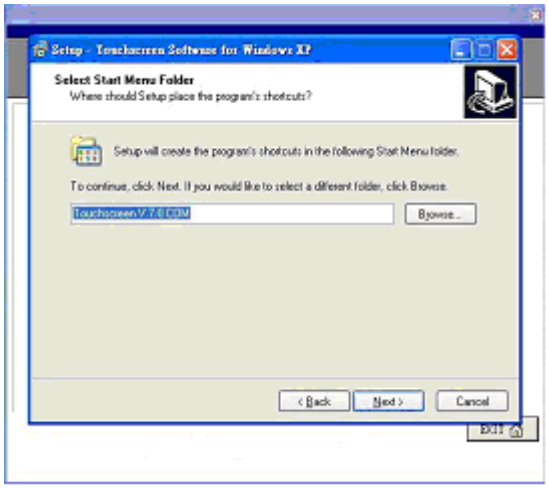
Refer to list procedure of touch driver as followings, which is based on Win XP as example.

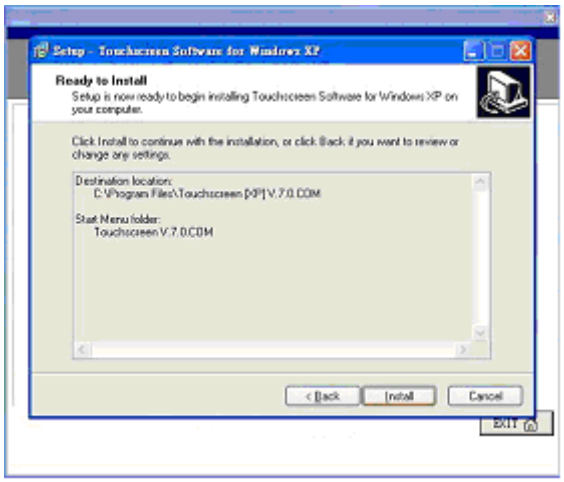

DRIVER BANK
PAGE2 : VGA Driver Install
PAGE3 : Touch Driver Install
PAGE4 : Manual / USB / DirectX / AcroBat / Card Reader
• VIA Chipset 4in1 Driver Install
• RTL8100BL Lan Driver Install
• AC'97 Audio Driver Install
Browse this CDROM
EXIT

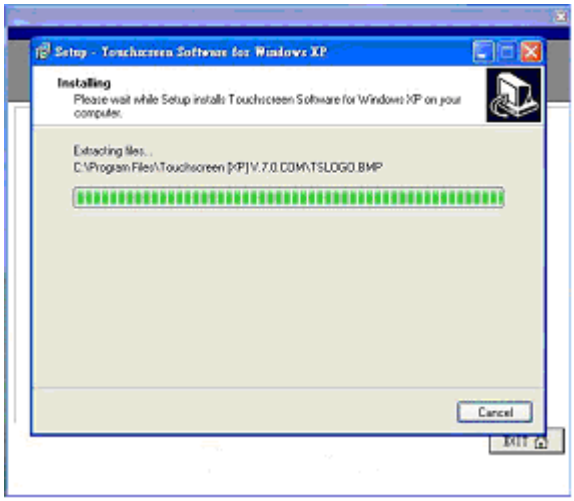

DRIVER BANK
PAGE1 : VIA Ain1 / Audio / Lan Driver Install
PAGE2 : VGA Driver Install
PAGE4 : Manual / USB / DirectX / AcroRat / Card Reader
* Touch Panel Driver Install For WIN9P
* Touch Panel Driver Install For WIN2K
* Touch Panel Driver Install For WINNT
* Touch Panel Driver Install For WINME
* Touch Panel Driver Install For WIN98
* Touch Panel Driver Install For WIN95
Browse this CDROM
EXIT

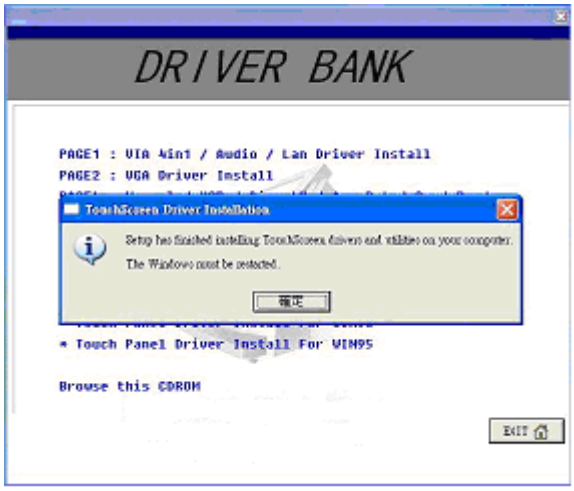

Setup - Touchscreen Software for Windows XP
Welcome to the Touchscreen Software for Windows XP Setup Wizard
This will install Touchscreen Software Version 7.0.COM on your computer.
It is recommended that you close all other applications before continuing.
Click Next to continue, or Cancel to exit Setup.
Next >
Cancel
EXIT

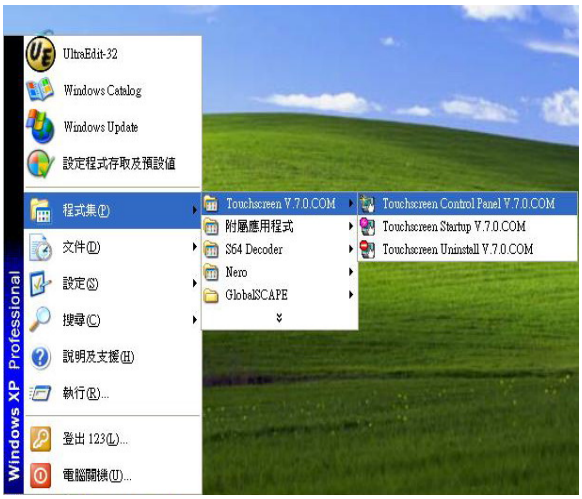

Setup - Touchscreen Software for Windows XP
Select Destination Location
Where should Touchscreen Software for Windows XP be installed?
Setup will install Touchscreen Software for Windows XP into the following folder.
To continue, click Next. If you would like to select a different folder, click Browse.
Browse...
At least 3.2 MB of free disk space is required.
< Back
Next >
Cancel
EXIT


Setup - Touchscreen Software for Windows XP
Select Start Menu Folder
Where should Setup place the program's shortcuts?
Setup will create the program's shortcuts in the following Start Menu folder.
To continue, click Next. If you would like to select a different folder, click Browse.
Touchscreen V.7.0.COM
Browse...
< Back
Next >
Cancel
EXIT

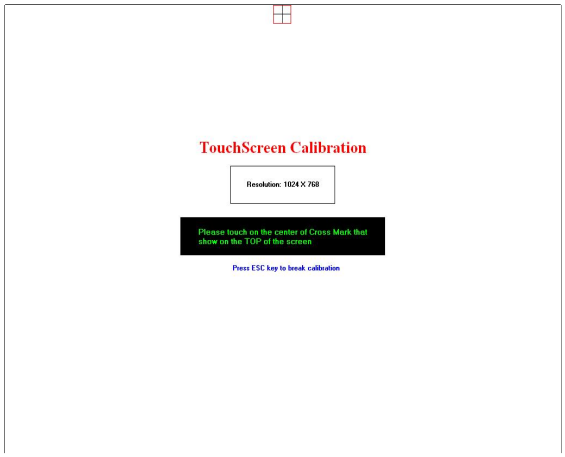

Setup - Touchscreen Software for Windows XP
Ready to Install
Setup is now ready to begin installing Touchscreen Software for Windows XP on your computer.
Click Install to continue with the installation, or click Back if you want to review or change any settings.
Destination location:
C:\Program Files\Touchscreen [XP] V.7.0.COM
Start Menu folder:
Touchscreen V.7.0.COM
< Back
Install
Cancel
EXIT

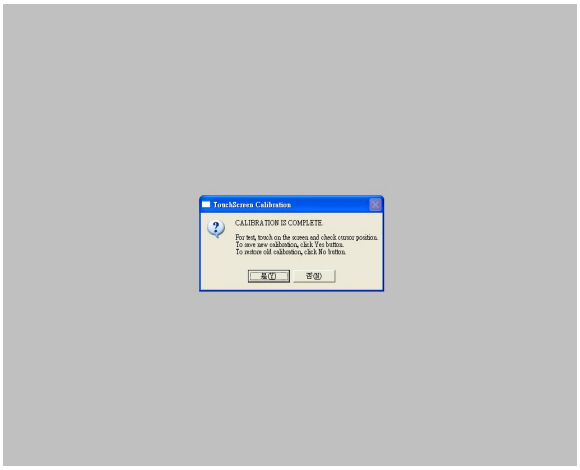

Setup - Touchscreen Software for Windows XP
Installing
Please wait while Setup installs Touchscreen Software for Windows XP on your computer.
Extracting files...
C:\Program Files\Touchscreen [XP] V.7.0.COM\TSLOGO.BMP
Cancel
EXIT


DRIVER BANK
PAGE1 : VIA 4in1 / Audio / Lan Driver Install
PAGE2 : VGA Driver Install
TouchScreen Driver Installation
Setup has finished installing TouchScreen drivers and utilities on your computer.
The Windows must be restarted.
確定
* Touch Panel Driver Install For WIN95
Browse this CDROM
EXIT

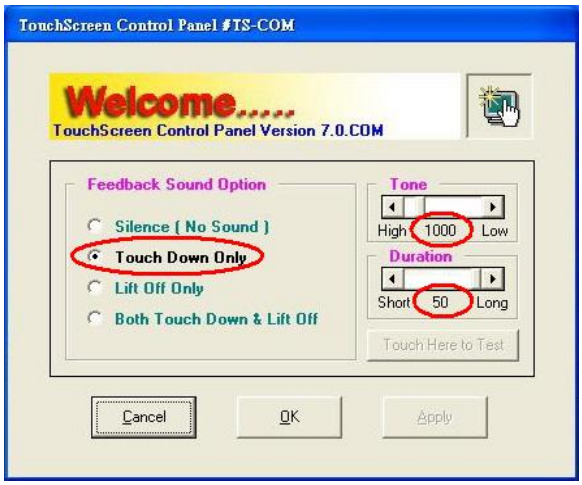

UltraEdit-32
Windows Catalog
Windows Update
設定程式存取及預設值
程式集(P)
文件(D)
設定(S)
搜尋(C)
說明及支援(H)
執行(R)...
登出 123(L)...
電腦關機(U)...
Windows XP Professional
Touchscreen V.7.0.COM
附屬應用程式
S64 Decoder
Nero
GlobalSCAPE
Touchscreen Control Panel V.7.0.COM
Touchscreen Startup V.7.0.COM
Touchscreen Uninstall V.7.0.COM

TouchScreen Control Panel #TS-COM
Welcome.....
TouchScreen Control Panel Version 7.0.COM
Serial Port
COM6, Port=03E0, IRQ=10, (38400,N,8,1)
Virtual Button
Drag Drop Mode, RBF Enable (Manual Mode)
Feedback Sound
Silence (No Sound)
Power Save
Disable Power Down Function
Calibration
4 points, mode 2
Support
Exit


TouchScreen Calibration
Resolution: 1024 X 768
Please touch on the center of Cross Mark that show on the TOP of the screen
Press ESC key to break calibration

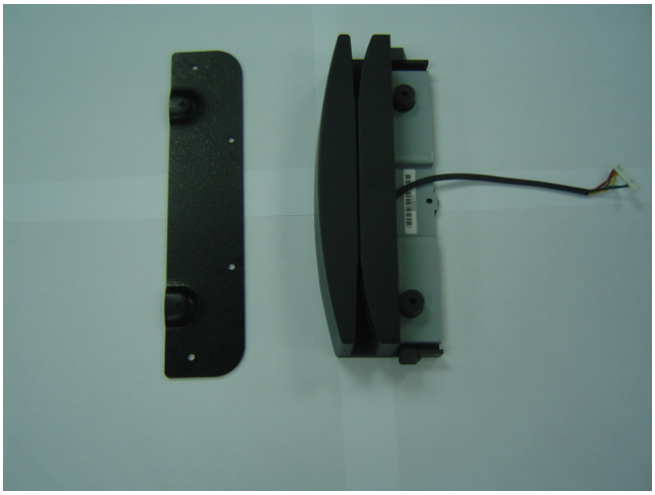

TouchScreen Calibration
CALIBRATION IS COMPLETE.
For test, touch on the screen and check cursor position.
To save new calibration, click Yes button.
To restore old calibration, click No button.

TouchScreen Control Panel #TS-COM
Welcome.....
TouchScreen Control Panel Version 7.0.COM
Serial Port
COM6, Port=03E0, IRQ=10, (38400,N,8,1)
Virtual Button
Drag Drop Mode, RBF Enable (Manual Mode)
Feedback Sound
Silence (No Sound)
Power Save
Disable Power Down Function
Calibration
4 points, mode 2
Support
Exit

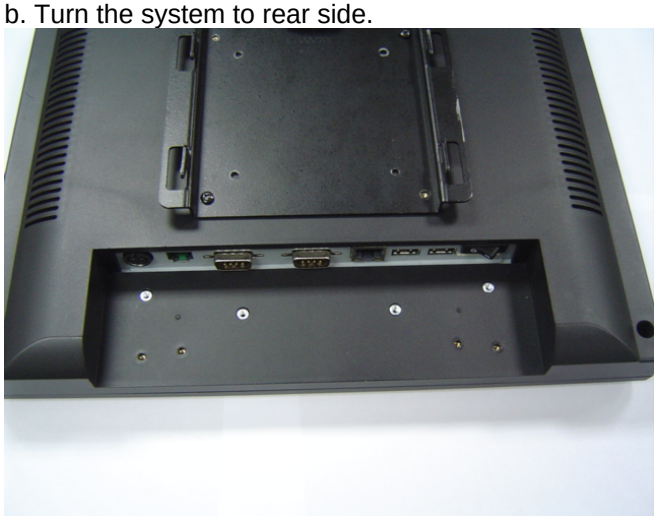


3.3 MSR / I-Button PS2 interface Installation

a. The MSR Kit included Bracket and Module.



b. Turn the system to rear side.



c. Screw up the bracket on the fixed hole.

d. Screw up the MSR module and connect the cable into connector.

3.4 Wall Mount Kit Installation

a. Screw up the female bracket on the mounting wall.

b. Screw up the male bracket on the rear side of the system.

c. Hang up the system to the bracket and slide to track for fixed.

3.5 Cash Drawer

For the 3rd version M/B which is released from end of April. The cash drawer pin assignment as followings. In order to program the cash drawer easily, we also provide OPOS driver.

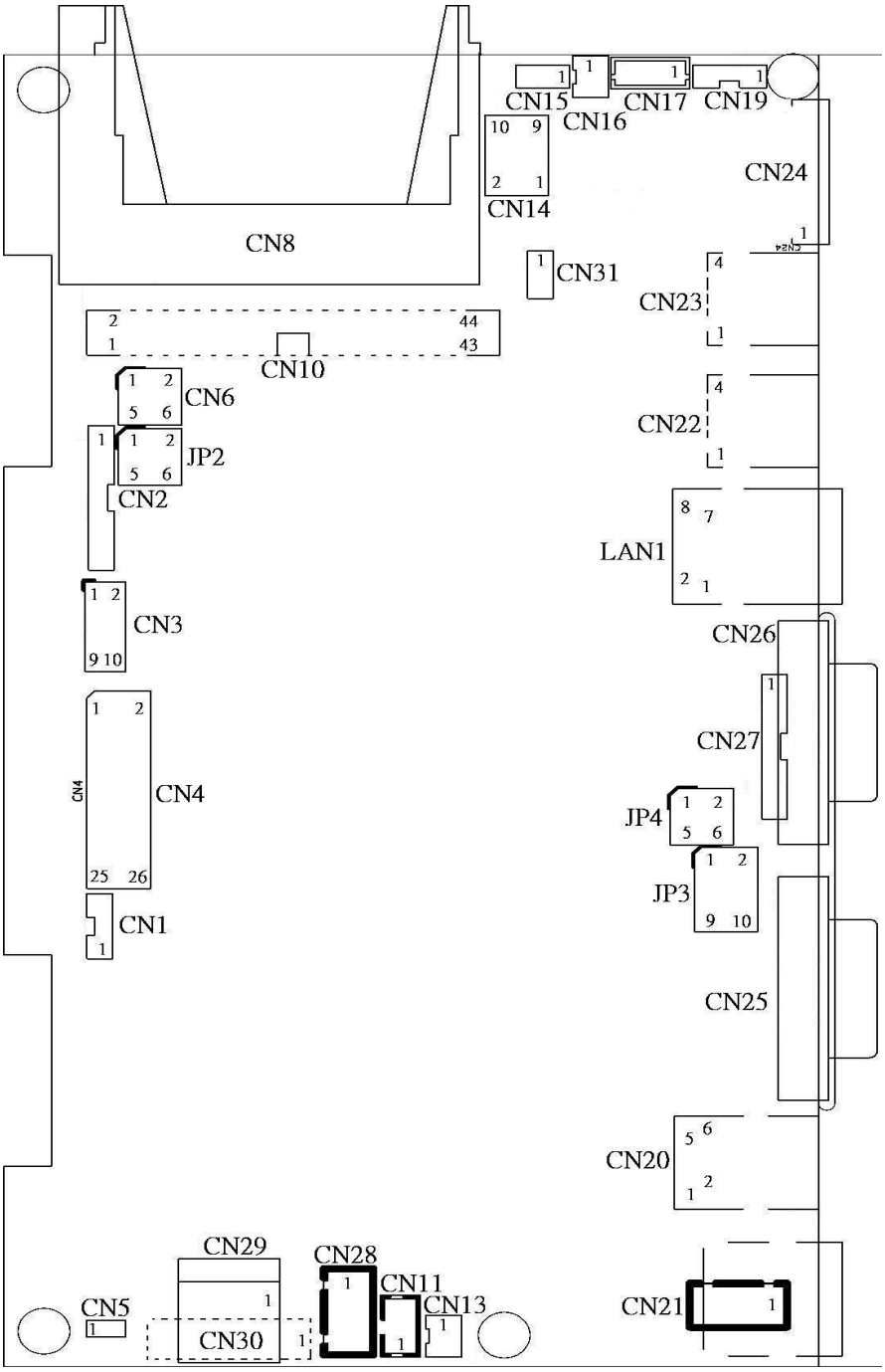
Pin	Assignment
1	GND
2	Data Out
3	Data In
4	12V
5	NC
6	GND

Note:

I/O Address: 280H for Cash Drawer which is controlled by
Data bit: Data IN =>Bit 0, Data OUT=>Bit 1
Normally recommend drive the Cash Drawer by out FF to I/O 280H.

Chapter 4
Jumper Definition

4.1 Main Board Layout



4.2 LCD Power setting

JP2: This jumper is for the setting of LCD panel voltage.

JP2	Description
2-4	+3.3V
4-6	+5V

JP2: This jumper is for the setting of LCD panel shift clock.

JP2	Description
1-3	Inverted
3-5	Normal

4.3 COM1/2 Power Selection

JP3	Description
1-3	COM1 RI Pin Use +12V
3-5	COM1 RI Pin Use +5V
7-9	**COM1 RI Pin Use RI**
2-4	COM2 RI Pin Use +12V
4-6	COM2 RI Pin Use +5V
8-10	**COM2 RI Pin Use RI**

4.4 COM3 Power Selection

JP4	Description
1-2	COM3 RI Pin Use +12V
5-6	COM3 RI Pin Use +5V
3-4	**COM3 RI Pin Use RI**

4.5 IDE Disk Drive Connector

a. CN10: Primary IDE Connector (Pitch 2.00 mm)

PIN	Description	PIN	Description
1	RESET#	2	GROUND
3	DATA 7	4	DATA 8
5	DATA 6	6	DATA 9
7	DATA 5	8	DATA 10
9	DATA 4	10	DATA 11
11	DATA 3	12	DATA 12
13	DATA 2	14	DATA 13
15	DATA 1	16	DATA 14
17	DATA 0	18	DATA 15
19	GROUND	20	N/C
21	IDE DREQ	22	GROUND
23	IOW#	24	GROUND
25	IOR#	26	GROUND
27	IDE DRDYA	28	GROUND
29	IDE DACK	30	GROUND
31	INTERRUPT	32	N/C

33	SA1	34	CABLE_80P
35	SA0	36	SA2
37	HDC CS0#	38	HDC CS1#
39	HDD ACTIVE#	40	GROUND
41	VCC5	42	VCC5
43	GND	44	

b. CN8: Compact Flash Storage Card Socket

PIN	Description	PIN	Description
1	GROUND	26	CARD DETECT1
2	D3	27	D11
3	D4	28	D12
4	D5	29	D13
5	D6	30	D14
6	D7	31	D15
7	CS1#	32	CS3#
8	N/C	33	N/C
9	GROUND	34	IOR#
10	N/C	35	IOW#
11	N/C	36	OBLIGATORY TO PULL HIGH
12	N/C	37	IRQ15
13	VCC	38	VCC
14	N/C	39	SLAVE
15	N/C	40	N/C
16	N/C	41	RESET#
17	N/C	42	IORDY
18	A2	43	DRQ
19	A1	44	ACK
20	A0	45	ACTIVE#
21	D0	46	PDIAG#
22	D1	47	D8
23	D2	48	D9
24	N/C	49	D10
25	CARD DETECT2	50	GROUND

3.6 Fan Connector

These connectors can supply +5V/500mA to the cooling fan. In the connector there have a “rotation” pin. The rotation pin is to get the fan’s rotation signal to system. So the system BIOS could recognize the fan speed. Please note only specified fan offers the rotation signal.

CN11 : Fan connector

PIN	Description
1	Rotation Signal
2	VCC5
3	GND

3.7 Serial Ports

The system provides three high speed NS16C550 compatible UARTS with Read/Receive 16 byte FIFO. Four com ports are in IO connector.

COM1: CN25 DB9-pin header
COM2: CN26 DB9-pin header

PIN	Description
1	DATA CARRIER DETECT (DCD)
2	RECEIVE DATA (RXD)
3	TRANSMIT DATA (TXD)
4	DATA TERMINAL READY (DTR)
5	GROUND
6	DATA SET READY (DSR)
7	REQUEST TO SEND (RTS)
8	CLEAR TO SEND (CTS)
9	RING INDICATOR (RI)

COM2: CN27 pin header 2.0mm

PIN	Description
1	DATA CARRIER DETECT (DCD)
2	RECEIVE DATA (RXD)
3	TRANSMIT DATA (TXD)
4	DATA TERMINAL READY (DTR)
5	GROUND
6	DATA SET READY (DSR)
7	REQUEST TO SEND (RTS)
8	CLEAR TO SEND (CTS)
9	RING INDICATOR (RI)
10	N/C
11	+5V
12	N/C
13	+12V
14	GROUND

COM3: CN24 for Card Reader.

PIN	Description
1	GROUND
2	+5V
3	RXD3
4	TXD3
5	KB_DATA_OUT
6	KB_CLK_OUT
7	KB_DATA_IN
8	KB_CLK_IN
9	RI3
10	DTR3
11	CTS3
12	RTS3
13	DSR3
14	DCD3
15	KB_EN

3.8 Power Connector

CN21: Power Connector Input

PIN	Description	PIN	Description
1	GND	3	Power IN(+12V)
2	GND	4	Power IN(+12V)

CN28: Power Connector Output

PIN	Description	PIN	Description
1	+5V	3	GND
2	GND	4	+12V

3.9 VGA Connector

The pin assignments are as following.

CN3: 10-pin Connector

PIN	Description	PIN	Description
1	RED	2	DDCDAT
3	GREEN	4	DDCCLK
5	BLUE	6	GROUND
7	HSYNC	8	GROUND
9	VSYNC	10	GROUND

3.10 LCD & INVERTOR Connector

The pin assignments are as following.

CN2: 15-pin Connector for LCD

PIN	Description
1	LVD0-
2	LVD0+
3	GROUND
4	N/C
5	N/C
6	GROUND
7	LVD1-
8	LVD1+
9	LVD2-
10	LVD2+
11	GROUND
12	LVDCK-
13	LVDCK+
14	LCD_VCC
15	LCD_VCC

CN1: 6-pin Connector for INVERTOR

PIN	Description
1	+12V
2	BKL_ Enable

3	GROUND
4	N/C
5	+12V
6	GROUND

3.11 USB Port Connector

USB1: CN22
USB2: CN23
USB3: CN31
USB4: CN15

PIN	Description
1	+5V
2	DATA-
3	DATA+
4	GROUND

3.12 Audio Connector

The pin assignments are as following.

CN17: LINE_OUT connector

PIN	Description
1	LINE_OUT_L
2,3	LINE_OUT_GROUND
4	LINE_OUT_R

CN16: MIC_IN connector

PIN	Description
1	MIC_IN
2	GROUND

3.13 LED

The pin assignments are as following.

CN6: LED connector

PIN	Description	PIN	Description
1	POWER LED-	2	POWER LED+
3	HDD LED-	4	HDD LED+
5	LAN LED-	6	LAN LED+

3.14 Power & Reset Button

CN13: ATX Power button

PIN	Description
1	ATX Power button +
2	ATX Power button -

CN5: Reset button

PIN	Description
1	Reset button +
2	Reset button -

3.15 Cash Drawer Connector

CN20

PIN	DESCRIPTION	PIN	DESCRIPTION
1	GROUND	2	DOUT_0
3	DIN_0	4	+12V
5	N.C	6	GROUND

3.16 Keyboard / Mouse connector

CN19: Keyboard/Mouse Connector

PIN	DESCRIPTION
1	VCC5
2	MOUSE DATA
3	MOUSE CLK
4	KEYBOARD DATA
5	KEYBOARD CLK
6	GROUND

3.17 Touch Connector

The pin assignments are as following.

CN29: Touch 5W connector

PIN	DESCRIPTION
1	RT
2	RL
3	SG
4	LT
5	LL

CN30 : Touch 7W connector

PIN	DESCRIPTION
1	NC
2	U
3	NC
4	R
5	NC
6	A
7	NC
8	L
9	NC
10	B
11	NC
12	D
13	NC
14	C

15	NC